CLAIMS:

1. Method of filtering an input signal where the filter coefficients are divided into more than one phase, and comprising the steps of:

performing a first filtering of samples of the input signal with a first phase of filter coefficients, (step 138),

adding together the first filtered samples for forming a first sum signal, (step 140),

performing at least one further filtering of samples of the input signal with a another phase of filter coefficients, (step 138),

adding together the filtered samples of each further phase to form at least one further sum signal, (step 140), and

dividing the first sum signal with the sum of the first phase of filter coefficients and each further sum signal with the sum of the corresponding phase of filter coefficients for outputting the thus normalized sum signals as a first and further output signals from the filter, (step 142).

2. Method according to claim 1, wherein the sum of the at least one further phase of filter coefficients can be different than the sum of the other phase of filter coefficients.

3. Method according to claim 1, further including the step of reducing the output signals by retaining every nth output signal and deleting the output signals in-between two retained signals, where n is an integer corresponding to a downscaling factor.

4. Method according to claim 1, wherein the filtering performed is a low pass filtering.

5. Method according to claim 1, wherein the frequency response of the filter is close to optimal.

6. Method according to claim 1, further including the step of inserting at least one zero sample between each sample of the input signal.

7. Method according to claim 1, further including the step of sampling the input signal for providing a number of samples.

8. Filtering device for filtering an input signal and comprising:

a first set of multiplying units for filtering of samples of the input signal with a first phase of filter coefficients,

at least one first summing unit for adding together the first filtered samples for forming a first sum signal,

at least one further set of multiplying units for filtering samples of the input signal with at least one further phase of filter coefficients,

at least one further summing unit for adding together the further filtered samples for forming at least one further sum signal, and

at least one normalizing unit dividing the first sum signal with the sum of the first phase of filter coefficients and each further sum signal with the sum of the corresponding phase of filter coefficients for outputting at least the thus normalized sum signals as a first and further output signals from the filter.

9. Filtering device according to claim 8, wherein the sum of the at least one further phase of filter coefficients can be different than the sum of the other phase of filter coefficients.

10. Filtering device according to claim 8, in which there is one normalizing unit provided for each sum signal.

11. Filtering device according to claim 8, further including a reduction unit arranged to reduce the output signals by retaining every nth output signal and deleting the output signals in-between two retained signals, where n is an integer corresponding to a downscaling factor.

12. Filtering device according to claim 8, wherein the filtering device is a low pass filter.

13. Video coding device including at least one filter for filtering signals, which filter comprises:

a first set of multiplying units for filtering of samples of the input signal with a first phase of filter coefficients,

at least one first summing unit for adding together the first filtered samples for forming a first sum signal,

at least one further set of multiplying units for filtering samples of the input signal with at least one further phase of filter coefficients,

at least one further summing unit for adding together the further filtered samples for forming at least one further sum signal, and

at least one normalizing unit dividing the first sum signal with the sum of the first phase of filter coefficients and each further sum signal with the sum of the corresponding phase of filter coefficients for outputting at least the thus normalized sum signals as a first and further output signals from the filter.

14. Video coding device according to claim 13, including a first and second filter, where the first filter is a downsampling filter and the second filter is an upsampling filter and further including a subtracting unit for calculating a difference signal between an input signal and a down- and upsampled version of the input signal.